

PTO 03-3338

French Patent No. 2 749 316

ADHESIVE SECURITY TAPE

Jean Luc Allegre

UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. MAY 2003  
TRANSLATED BY THE RALPH MCELROY TRANSLATION COMPANY

FRENCH REPUBLIC  
NATIONAL INSTITUTE OF INDUSTRIAL PROPERTY  
PUBLICATION NO. 2 749 316

Filing No.:	96 07179
International classification <sup>6</sup> :	C 09 J 7/02 B 65 D 50/00 55/06
Filing date:	June 4, 1996
Date of public access to the application:	December 5, 1997 Bulletin 97/49

List of documents mentioned in the preliminary search report: Refer to the end of this section.

ADHESIVE SECURITY TAPE

[Ruban adhesif de securite]

Inventor:	Jean Luc Allegre
Applicant:	Decomatic SA Joint-Stock Company

The present invention relates to an adhesive security tape which is applied in particular to the inviolable closing of packages, for example, letters, envelopes, packets or boxes.

This type of adhesive tape enables one to be sure that a package sent was not opened, for example, by mistake or by fraud, between the time when it was sent by its sender and the time when it was received by its recipient.

Already known in the state of the art are adhesive security tapes which use sealing wax or lead. However, the use of these materials is limiting and their adhesion on certain materials such as polyethylene or polyvinyl chloride is insufficient.

Also known are adhesive tapes which have a layer of powerful and colored adhesive material borne by a very fragile support. Once stuck on a package, these tapes are destroyed when they are removed by ordinary means. The security of the tapes is reinforced by personalizing them with hot marking means.

However, these adhesive tapes can be fraudulently unstuck, for example, by use of solvents, sources of heat or sources of cold. Moreover, these types of tape are very widespread,

and the means of personalization of the tapes are easily falsified. It is therefore possible to replace destroyed tapes and to conceal the fraudulent opening of the package from the eyes of the recipient.

Also known are adhesive tapes making possible the inviolable closing of a package, particularly of a letter. It includes a layer of adhesive material provided on a first side with a removable support sheet, a layer of fragile material with little cohesion stuck on the second side of the layer of adhesive material only partially covering it, and a protective sheet covering the layer of fragile material, stuck on free zones of the second side of the layer of adhesive material. The adhesive tape moreover has some means of personalization consisting of a fragile metallized film, forming a hologram, deposited on the free side of the layer of fragile material, a number and a design imprinted on the free side.

This type of adhesive tape is delicate and difficult to obtain during its manufacturing.

These are the problems which the present invention intends more particularly to remedy.

The aim of the invention is to close a package in an inviolable manner with means which are compatible with the material of the package, particularly plastic; these means are destroyed when there is an attempt to open the package, and they cannot be replaced fraudulently.

To this effect, the invention relates to an adhesive security tape for the inviolable closing of packages, for example, of letters, envelopes or similar, characterized by the fact that it includes a support made of cellulose acetate with a low tear strength, a first layer of ink partially covering one of the sides of the support, a second layer of ink which is arranged on the first in order to cover the whole surface of the support, a layer of adhesive material which is deposited on the second layer of ink and a peelable protective sheet which protects the layer of adhesive material.

One advantage according to the invention consists of the fact that the first layer of ink is transparent or colorless in order to constitute any text which does not cover the whole surface of the acetate support.

Another advantage concerning the invention consists of the fact that the second layer of ink is colored and adhesive with respect to the acetate support.

Another advantage of the invention consists of the fact that the first layer of ink is not adhesive with respect to the acetate support.

Furthermore, the invention consists of an envelope for the transport of documents or similar, which has, on one of its flaps, an adhesive security tape which is stuck on said flap by means of a strip of the adhesive layer, while the other part of said layer is protected by a protective sheet which is offset laterally in order to provide a grasping zone for the purpose of entirely freeing the adhesive layer for the closing of the envelope.

The appended drawing, given as an example, will enable one better to understand the invention, the characteristics which it offers and the advantages which it is capable of obtaining:

Figure 1 is a partial view showing the different elements of the adhesive tape according to the invention.

Figure 2 is a diagrammatic view illustrating the positioning of the adhesive tape, for example, an envelope made of plastic material.

Represented in Figures 1 and 2 is adhesive security tape 1 which makes possible the inviolable closing of package 7, for example, postal letters, envelopes, packets or boxes.

Adhesive security tape 1 has a support made of cellulose acetate 2 with a low tear strength.

First layer of ink 3 is deposited on one of the side of acetate support 2 in such a way as to cover said side only partially. In effect, first layer of ink 3 is provided for constituting any text which does not cover the whole surface of acetate support 2. First layer of ink 3 is provided so as to be non-adhesive with respect to the surface of the acetate support and is preferably formed with a pigmentation making it transparent or colorless.

Second layer of ink 4 which is colored covers first layer of ink 3 and the whole surface of acetate support 2. Second layer of ink 4 is formed, for example, with a bright pigmentation such as a blue, yellow or red color.

Layer of adhesive material 5 is deposited on second layer of ink 4 in order to cover the whole surface of acetate support 2. Adhesive layer 5 is of the Hot Melt type or type having an acrylic mass necessary for complying with the required characteristics. In effect, adhesive layer 5 is provided so as to adhere strongly on a large number of surfaces and in particular on surfaces made of plastic material.

Finally, protective sheet 6 made of paper or plastic is deposited on adhesive layer 5. Sheet 6 is associated with a layer of silicone which is turned on the side of adhesive layer 5. Sheet 6 is provided so as to be peelable in order to be removed and to free adhesive layer 5 during positioning of security tape 1 on envelope 7.

Adhesive tape 1 is cut over its whole length in order to form teeth 10 on each of its edges of greater length. Teeth 10 make it possible to form beginnings for tearing of acetate support 2 during an attempt at fraud.

Adhesive tape 1 is packaged in roll form and cut off to the foreseen length in order to be stuck on envelope 7 made of plastic material. Before the positioning of adhesive tape 1, protective sheet 6 is offset longitudinally in order to expose strip 5a of adhesive 5 which is stuck on flap 7a or 7b of envelope 7.

The longitudinal offsetting of protective sheet 6 makes it possible to determine grasping zone 6a which is necessary for exposing adhesive layer 5 entirely for it to be stuck on the other

flap 7a or 7b during final closing of envelope 7. Furthermore, in the case in which protective sheet 6 is not longitudinally offset, it is connected in part in such a way as to form a grasping flap.

Adhesive tape 1 is provided so as to deteriorate in case of application of a solvent, for example, in order to warn the user than an attempt to open has been made. In effect, acetate support 2 is absolutely not resistant to solvent seeing that it melts and becomes deformed when in contact with such a liquid. Furthermore, if acetate support 2 is removed, it risks becoming torn because of teeth 10 made along the edges of greater length of tape 1.

In the case in which the latter is not torn, non-adhesive ink layer 3 allows one to write, either on that which is colored 4, or on acetate support 2, a text mentioning, for example, that the envelope has been opened. The writing of this text is due, on one hand, to the fact that first layer of ink 3 is not held on acetate support 2 and that adhesive layer 5 sticks strongly to the two flaps 7a and 7b of envelope 7, thus holding second colored layer 4 on the side of said flap.

The adhesive tape according to the present invention has a unique and unfalsifiable character. It guarantees, for the recipient of the package, compliance with the confidentiality in the routing of the package. The means of personalization of the adhesive tape allow one to authenticate the sender.

It is observed that adhesive tape 1 has adhesive layer 5 which is activated by pressure exerted by the hand or by any other material in order for said tape to be applied on flaps 7a, 7b of envelope 7.

It must be understood furthermore that the preceding description was only given as an example and that it in no way limits the domain of the invention from which one would not diverge by replacing the described details of execution by any other equivalents.

### Claims

1. An adhesive security tape for the inviolable closing of packages, for example, of letters, envelopes or similar, characterized by the fact that it includes support (2) made of cellulose acetate with a low tear strength, first layer of ink (3) partially covering one of the sides of support (2), second layer of ink (4) which is arranged on the first in order to cover the whole surface of support (2), layer of adhesive material (5) covering second layer of ink (4) and peelable protective sheet (6) which protects adhesive layer (5).

2. An adhesive tape according to Claim 1, characterized by the fact that first layer of ink (3) is transparent or colorless.

3. An adhesive tape according to Claim 1, characterized by the fact that ink layer (3) is provided in order to constitute any text which does not cover the whole surface of acetate support (2).

4. An adhesive tape according to Claim 1, characterized by the fact that second layer of ink (4) is colored and sticks to acetate support (2).

5. An adhesive tape according to Claim 1, characterized by the fact that teeth (10) are cut on its edges of greater length, teeth which constitute beginnings of tearing of acetate support (2).

6. An adhesive tape according to Claim 1, characterized by the fact that a single one of the sides of acetate support (2) is covered with ink, an adhesive layer and a protective sheet in order to form an inviolable closing device.

7. An envelope for the transport of documents or similar, characterized by the fact that it has, on one of its flaps (7a) or (7b), adhesive security tape (1) which is stuck on said flap by means of strip (5a) of adhesive layer (5), while the other part of said layer (5) is protected by protective sheet (6) which is offset laterally in order to provide grasping zone (6a) for the purpose of entirely freeing adhesive layer (5) for the closing of envelope (7).

8. An envelope according to Claim 7, characterized by the fact that it has adhesive tape (1) provided with acetate support (2) partially covered with layer of ink (3), while second colored ink layer (4) is arranged over the whole surface of acetate (2) and adhesive layer (5) covering the whole surface of acetate (2).

9. An envelope according to Claim 7, characterized by the fact that protective sheet (6) is folded in part in order to form a grasping flap.



